

WHAT IS CLAIMED IS :

1. An exposure apparatus comprising:

5 a first table and a second table each including a stage plate on which a work is placed, and a light-transmissible plate to which a mask is previously mounted, the first and second tables being transferred alternately between a load/unload position where the work is loaded/unloaded and aligned with the mask and an exposure
10 position where the aligned set of work and mask is exposed to light;

a first transferring passage and a second transferring passage arranged at two different levels between the load/unload position and the exposure position, wherein the first transferring passage transfers the first table and the second table alternately,
15 while the second transferring passage transfers the second table and the first table alternately;

a hoist mechanism which elevates one of the first and second tables to the first transferring passages, and lowers the other of the second and first tables to the second transferring passage;

20 a conveyor mechanism which conveys the first and second tables elevated or lowered by the hoist mechanism along the first and second transferring passages, one from the load/unload position to the exposure position, and the other from the exposure position to the load/unload position;

25 an alignment mechanism which aligns the work that is placed on one of the tables conveyed to the load/unload position with

the mask; and

a light-exposure mechanism which radiates light to the work placed on the other of the tables conveyed to the exposure position.

5 2. An exposure apparatus according to claim 1, wherein said hoist mechanism engages with the first and second tables, respectively, through hoist guide means, and wherein said conveyor mechanism conveys the first and second tables by drive means engageable with the hoist guide means.

10

 3. An exposure apparatus according to claim 2, wherein said light-transmissible plate includes a plate member which allows transmission of light and to which the mask is set, a front plate-support member provided at a front side of the plate member
15 in relation to a conveying direction of the table from the exposure position to the load/unload position, a positioning protrusion extending from the front plate-support member, and a rear plate-support member opposite to the front plate-support member and fixed to the table so as to be engageable with a rear side
20 of the plate member.

 4. An exposure apparatus according to claim 3, wherein an abutting member is provided in the load/unload position to move toward and away from the positioning protrusion of the
25 light-transmissible plate, and wherein light-transmissible plate guiding means is provided to push the rear plate-support member

of the light-transmissible plates so that the positioning protrusion abuts against the abutting member.

5 5. An exposure apparatus according to claim 4, wherein
each of said first and second tables includes a frame member for
remotely and oppositely supporting the stage plate with respect
to the light-transmissible plate, and a suction mechanism for
sucking a work against the mask.

10 6. An exposure apparatus according to claim 5, wherein
said frame member has guide means for retaining the stage plate
at a predetermined position.

15 7. An exposure apparatus according to claim 5, wherein
each of said first and second tables includes a light-transmissible
plate slide mechanism which slidably engages with slide means
provided on the frame member, so that the stage plate is slidable
against the light-transmissible plate.

20 8. An exposure apparatus according to claim 7, wherein
each of said first and second tables includes a stopper plate
laterally extending with respect to the second transferring passage
extending from the exposure position to the load/unload position,
and wherein an abutment stop is provided to move toward and away
25 from a sliding locus of the stopper plate.

9. An exposure apparatus according to claim 2, wherein each of said first and second tables is provided with conveyor rollers at one of sides extending along the first and second transferring passages, and an engage portion engageable with the hoist guide means at the other side, wherein a guide rail is arranged at both sides of the first and second transferring passages so that the conveyor rollers move along the guide rail, and wherein each guide rail of the first transferring passage includes a cutout through which the conveyor rollers are elevated and lowered, and an assist rail movable toward and away from the cutout.

10. An exposure apparatus according to claim 9, wherein said drive means is arranged surrounding the load/unload position and the exposure position and includes a drive belt engageable with the hoist guide means of the first and second tables and conveying the first and second tables along the first and second transferring passages, and belt guides for guiding the drive belt.

11. An exposure apparatus according to claim 9, further comprising a first hoist rod engageable with the first table through the hoist guide means at the load/unload position and the exposure position, a second hoist rod engageable with the second table through the hoist guide means at the load/unload position and the exposure position, a first rotation center rod connected to the first hoist rod through a first link member and being a rotation fulcrum at the time of elevating or lowering the first hoist rod

through the first link member, a second rotation center rod connected to the second hoist rod through a second link member and being a rotation fulcrum at the time of lowering or elevating the second hoist rod through the second link member, and link drive
5 means for rotatably and synchronously moving the first and second link members.

12. A method of conveying a mask and a work, in which a first table to which a mask and a work are set is conveyed from
10 a first position to a second position via a first transferring passage, while a second table to which a mask and a work are set is conveyed from the second position to the first position via a second transferring passage, the method comprising the steps of:

aligning the mask and the work on the first table at the
15 first position, while exposing the work on the second table to light through the mask at the second position; and

conveying the first table and the second table in an endless manner along a loop, which extends across the first and second positions and includes the first and second transferring passages.

20

13. A method of conveying a mask and a work according to claim 12, wherein the first position and the second position are parallel.

25 14. A method of conveying a mask and a work according to claim 12, wherein the first transferring passage and the second

transferring passage are positioned vertically to each other.

15. A method of conveying a mask and a work according to claim 14, wherein the first transferring passage is arranged on
5 top of the second transferring passage.

16. A method of conveying a mask and a work according to claim 12, wherein the loop is rectangular.